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ABSTRACT

Predicated on the notion that workers will need to transfer new skills to a variety of situations, this document is intended to teach industrial trainers in Britain how people learn and how to train individuals to become independent learners as well as capable performers of specific job skills. The first section of the book is a mixture of exercises and tips on types of learning (memorizing, understanding, and doing) and learning methods for each. The next section offers help on how trainers can help learners to overcome complacency, fear, and disinterest about learning and to become independent learners. Trainers are encouraged to undertake five stages (write learning objectives after task analysis, analyze tasks for difficulty, select training methods to match the kind of learning required, plan a training session, and present the session), and the document includes exercises so that most stages can be practiced. Other exercises help trainers think about how to widen the range of experience they are able to give their learners and how they can make the most effective use of their time. The document concludes with tips on how trainers can encourage continuous assessment of their sessions, a list of the 10 commandments of good listening, a summary, and a 9-item bibliography. (The 10 commandments are: do not talk, help the speaker to relax, express a will to listen, keep away distractions, relate to the speaker, have patience, use self-control, ask questions, tolerate silences, and--again--do not talk!) (CML)

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Helping People Learn

A guide to linking training and learning

Carol Law

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HELPING PEOPLE LEARN

Introduction

In today's changing world we are all faced with an uncertain future. The skills we learn today may not be those needed for tomorrow. What we do need is the ability to transfer our skills from one situation to another i.e. to become versatile. To do this effectively we need not only knowledge but the confidence to apply that knowledge in new situations. This will mean developing our independence and having a positive attitude towards change.

Traditionally the role of the instructor has been to train people in specific job skills. However, increasingly this role is changing. When taking on an instructor's role you will be expected to equip people with the ability to cope with change, particularly those of you involved with young people on training and work preparation schemes such as the Youth Training Scheme.

The key component in helping people cope with change is to help them develop as individual autonomous learners so that they have the confidence to cope with change. How can you set about integrating the development of people's learning ability with your training so that ***how*** something is learnt goes hand in hand with ***what*** is learnt?

There will be many of you, who as experienced workers or supervisors, take on the role of instructor only from time to time. Those of you who are managers may feel that your role in training your staff may be better described as that of a coach, rather than that of an instructor, However the aims of this workbook still apply to you.

The aim of this workbook is to give you an awareness of how people learn and then help you plan and run your training sessions effectively so that you are not only helping people learn specific job skills but also helping them become independent learners.

First of all you need at your fingertips a framework that relates ***what*** has to be learnt to ***how*** best to learn it.

How Do People Learn

EXERCISE 1
Below is a list of things which you might already have learned, or which you might have to learn in the future. Your task is to sort the items into 3 equal groups according to HOW you would learn what is listed.
e.g. Swimming would go with horse riding, What is gravity? would go with How an engine works and Dates in history with Times of trains.

Fill in Sheet A on page 3

How to solder a joint

Typewriter keyboard skills

Horse riding

What is gravity?

Morse code

Why certain machines have a safety guard

Playing football

Dates in history

Times of trains

Swimming

The structure of computer programmes

Colour code for electrical resistors

Why instructional style is important

The names of different departments in a factory

How an engine works

When you have done this to your satisfaction, write down the methods you would use for learning the items in each of your three categories.
Fill in sheet A.
Finally, choose a word or a short phrase which summarizes the methods for each of the three groups and another word or short phrase which summarizes the types of items in each group.

Compare your thoughts with ours listed on Sheet B on page 4.

SHEET A

Group I items	Group II items	Group III items
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
Methods	Methods	Methods
Summary of Methods	Summary of Methods	Summary of Methods
Type of item	Type of item	Type of item

SHEET B

Group I	Group II	Group III
1 Morse code	1 What is gravity?	1 Typewriter keyboard skills
2 Dates in history	2 Why certain machines have a safety guard	2 How to solder a joint
3 Times of trains	3 The structure of computer programmes	3 Horse riding
4 Colour code for electrical resistors	4 Why instructional style is important	4 Playing football
5 Names of different departments in a factory	5 How an engine works	5 Swimming

Examples of Learning Methods

Repetition Grouping Associations Role memory Mnemonics	Thinking Asking questions Working things out Finding out from books, TV etc Talking it through with other people	Trial and error Experimenting Watching Copying Making Mistakes
MEMORIZING For facts that have to be reproduced in the same form each time	**UNDERSTANDING** For ideas, concepts	**DOING** For practical activities, physical skills

NB: Much learning demands a mixture of all three types of learning

Types of Learning and Learning Methods

You now have a simple framework of learning that will help you categorise learning under the headings of Memorising, Understanding and Doing which can be represented by the mnemonic MUD.

Let's now look more closely at each type of learning and the respective methods of learning.

A MEMORISING*

You need to know how your memory works in order to appreciate why the methods of learning will be effective in helping you memorise information.

1 SPAN OF MEMORY

There is a limit to the amount of new information that you can take in at any one time.

If you try to take in too much at once, you will overload your memory. The result will be the tendency to remember only part of the information. You will remember more easily the beginning and end, but will be most likely to forget what came in the middle, unless the middle has some particular feature which makes it stand out.

Methods

If there is a lot to be learned, break it down into small, easily remembered chunks – small enough not to have a 'middle'. (PART LEARNING)

Revise the first part as you learn the second. (CUMULATIVE PART LEARNING)

Test yourself on the first two parts before going on to the third. (PROGRESSIVE PART LEARNING) This is the most effective of all.

It is NOT a good idea to learn all the parts separately before you test yourself.

2 DECAY

Memory decays very quickly. Unless you take steps to prevent it, much of what you memorize one day will be forgotten the next.

Methods

Learn the material as thoroughly as possible on the first occasion. *Test yourself* on each of the next few days. *Check* occasionally during the next few weeks that you can still remember what you learned. If you find there are gaps in your memory, concentrate on these. Think up some particular way of making them stick in your mind.

* *Taken from "How do I learn?" (December 1981) Further Education Curriculum Review and Development Unit*

3 FREQUENCY

You are more likely to remember something if you go over it several times.

Methods

Read through, listen to or look at the material many times. *Test yourself repeatedly* by saying things out loud, by writing them down, by drawing diagrams, by chanting, by reciting them to someone else. Get your colleagues to ask you questions to test your memory and do the same to them.

4 ERRORS

Errors will creep into your recall of what you have tried to memorize, if:

a) you try to take in too much at once.
b) you do not test yourself soon and often enough after trying to memorize the material.

It is very important to avoid errors since once they have been made, they stick. They will tend to get repeated and become very hard to get rid of.

Methods

Make sure you learn things accurately in the first place. (Breaking things down into small chunks will help)

Revise regularly what you have learnt so that you prevent gaps appearing in what you can recall. This cuts down the number of guesses you have to make and therefore reduces the liklihood of mistakes creeping in.

Pay particular attention to relearning any parts which are difficult to recall.

5 ASSOCIATIONS

It is easier to remember things if you can find links within the material or else with things you already know.

Make up associations, the funnier the better.
e.g. Group things according to a common feature.

Pair things so that when you think of one, the other automatically follows.

Make up funny or unlikely connections – either in words or by imagining things in your mind – so that things stick.

Visualise yourself doing the thing that you particularly want to remember – e.g. making certain safety checks on equipment.

6 SPECIAL AIDS

There are also various special aids which are sometimes useful.

RHYME RULES. The rhyme for remembering the number of days in the month is an example of this.

"30 days hath September, April, June and November...."

You could make up your own rhymes or rhythmical chants.

FIRST LETTER MNEMONICS
e.g. *Richard of York Gave Battle In Vain*
helps you remember the colours of the spectrum since the first letter of each word in the sentence (ROYGBIV) is the cue to the list of colours: Red, Orange, Yellow, Green, Blue, Indigo, Violet.

B UNDERSTANDING*

Understanding is an active mental process involving thoughts which link or group ideas together in a new way that makes sense to us. The following methods will help us develop our understanding:

1 QUESTIONING OURSELVES

To develop understanding, it is important that we do not passively accept the explanation of others. Acquiring understanding, therefore, first involves asking ourselves questions and trying to answer them. If we are reading a book, or something is explained to us, or we watch a demonstration, we must ask ourselves at every stage: What does that mean? How does it relate to what we know already? What are its implications?

2 QUESTIONING OTHERS

If we cannot find the answers on our own, we must ask others such as colleagues, friends, and experts, until we are satisfied with the answers.

The Form of Questioning

'Why' questions usually identify the reasons for what goes on,

'Who, how, what, where and when', help mainly in describing, comparing and gaining information.

We must decide:

Whether or not our questions have been answered and if not, rephrase the questions;

What questions are needed to fill in gaps in our knowledge or understanding not so far covered.

3 COMPARISONS

After finding out by questioning as much as we can about the new facts or ideas, we must ask ourselves 'How is this information the same or different from ideas we have already?' Questioning is being used here for the specific purpose of comparing what we know already with what we have now gathered.

Equally, comparison can help to contrast what we know with its opposite, to which we may formerly have given little thought.

* *Taken from "How do I learn?" (December 1981) Further Education Curriculum Review and Development Unit*

For example, if we are asked to describe a healthy animal, it would be helpful to consider what we have observed as the symptoms of an unhealthy animal:-

High temperature, dull eyes, sores, a poor coat, no appetite etc.

The opposite or absence of these helps us to define a healthy animal, and show that we understand what the term means.

4 SOLVING PROBLEMS

Working out a problem expands our understanding by making us adapt and transfer the body of knowledge we have to a variety of different circumstances.

It is also good for identifying the extent of this knowledge and what more we need to know.

We should try to solve the problem by actively exploring a range of possible answers to our questions. The more we can extend this range of answers the mroe we will develop our understanding of the problem.

A major point is that by asking ourselves questions in order to try to solve problems, we are actively involving ourselves in reviewing and comparing our body of knowledge, and not passively waiting to be told.

Finally, a good way of checking our understanding of both the problem and its solution is to explain the process to others.

C DOING*

Learning to do something normally involves:-

some understanding of what you are trying to achieve,
e.g. to get the ball into the net – PURPOSE

some procedures or rules to memorise,
e.g. the off-side rule – PROCEDURES

some physical skills or reflex skills which you need to practise,
e.g. kicking a ball – PRACTICE

The practice part is very important and you must always try to get the movements RIGHT from the start, even if it means doing something in slow motion.

UNLEARNING can be difficult.

You must not be surprised if you get to a stage where you don't seem to improve much – a LEARNING PLATEAU. When you START you need to memorise and understand. As you get better, you forget all about the memorising and understanding bit and do things automatically and this is how you 'get off the plateau'. This is often the stage when you are unconsciously learning to use information from muscles as well as from your eyes and ears. Using this muscle information is much quicker than other cues. Once you have learnt it you will start to improve and often find you can do things without thinking. A good example is learning to drive.

1 LEARNING FROM A DEMONSTRATION

WATCHING SOMEONE:

WATCH carefully – notice: body movements, which hand and foot is being used; when sight, sound, smell or touch is involved; how tools and materials are held;

ASK QUESTIONS until you know what is being done.

Try to find the KEY POINTS in the cycle which might cause particular difficulty.

If the sequence is long or fast try to break it up into parts and jot down the order of movements.

Look out for INSPECTION CHECKS and memorise them.

* *Taken from "How do I learn?" (December 1981) Further Education Curriculum Review and Development Unit*

BEFORE YOU TRY:-

MENTALLY go through the sequence; use your notes.

GET THE FEEL of the materials and tools you will use.

DECISIONS often need to be made. Make sure you know when to make them.

Consider whether there are any points where you need to do two things at once.

Remember that it is important to be aware of any danger points and any safety precautions.

WHEN YOU START:-

Try to start as soon as possible after watching someone or being shown.

Concentrate on doing the key points slowly before you attempt to speed up.

DON'T HURRY at the beginning. It is more important that you GET IT RIGHT.

Once you've learned something wrongly it is often difficult to correct it.

PRACTISE as OFTEN as you can, especially in the beginning.

Learn until the movements become AUTOMATIC.

2 LEARNING FROM WRITTEN INSTRUCTIONS

READ right through carefully before you start. Be sure about what your objective is and what you are trying to do.

CHECK that you have all the materials and tools you need.

LOOK very carefully at any diagrams, especially those that give names of parts and indications of different stages in the process.

3 LEARNING FROM UNDOING

LAY THE PARTS OUT systematically in a row, or number them as you remove them. If what is to be learned is not in parts but continuous, e.g. macramé, undo one section only and re-do. Repeat until you have learned this section, and then undo the second section. Then re-do two sections. Continue in this way until you are able to do, undo and re-do all sections

IF YOU UNDO TOO MUCH YOU WILL BE LOST

Attitudes to Learning

You are now aware that there is a wide range of learning methods and for them to be implemented effectively they must be related to the type of learning taking place. It is useless merely to try to memorise information that must be understood. Many people unwittingly adopt ineffective learning methods and are unaware of other possibilities. Some positively resist direct suggestions that they should try other ways. Their reactions include:-

a) Complacency: I'm all right as I am: I don't want to change.

b) Learning happens naturally.

c) Fear: How do I know the new methods will work – as least I know that the way I learn now has got me this far.

d) Disinterest: It won't help me pass exams.

Many people have a passive attitude towards learning expecting it to be an inevitable outcome of the instruction they receive. The idea of thinking about learning as a skill in itself is alien to them, and they are sceptical of doing so.

WHAT CAN YOU DO TO HELP PEOPLE OVERCOME SUCH ATTITUDES AND BECOME INDEPENDENT LEARNERS?

Stage 1

LEARNING OBJECTIVES AND JOB/TASK ANALYSIS

You must establish what your trainees will be learning in your training sessions – in other words identify *the learning objectives*. To do this first of all think about the job you are helping them learn to do. Most jobs, however simple, consist of a sequence of tasks and have standards of performance e.g. quantity, quality, time etc. Use your own familiarity with the job, or observe an experienced worker doing the job several times and write down the sequence of tasks observed and description of each task. Also list the standards of performance required. (This will enable you to put across your instruction in a logical sequence which will not confuse your trainee).

For example:
The job of a warehouse operative could be summed up as follows:
"to make up deliveries, to meet requisitions correctly and safely within the time allocated"

The sequence of tasks that make up the job are as follows:-

a) reading and interpreting requisitions
b) locating items in the stores
c) lifting and carrying safely
d) restocking items that are out of stock

The performance standards are

– doing the tasks safely
– doing the tasks correctly
– working at a consistent speed throughout the day

Each task can be broken down further in order to identify what the operative will need to *learn*. e.g. restocking items that are out of stock involves being able to:

– follow the procedure for re-stocking
– identify and remember department codes
– complete an order form correctly
– describe quantities/qualities used

Most tasks will generally involve more than one type of learning e.g. The above task involves memorising, understanding and doing.

Having analysed the job and identified what needs to be learnt you must express learning objectives in *doing* terms. This is because you will then be able to test whether learning has taken place. You cannot observe learning because it is an internal, intellectual experience; therefore you cannot observe someone "knowing", "understanding" or "appreciating". You can observe someone explaining, answering questions, completing forms accurately or operating equipment safely and efficiently.

A complete learning objective specifies not only what a person will *do* but *how well* they will do it – to what standard e.g. quantity, quality, time, cost etc.

EXERCISE 2 - Learning Objectives

1 Which of the following learning objectives are *written* in *doing* terms?

"Trainees will be able to . . ."	Yes	No
a) complete an order form	.....	.....
b) lift and carry heavy objects	.....	.....
c) increase their typing speed	....	....
d) appreciate the need to carry out safety procedures	.....	.....
e) given a balance sheet, calculate key financial ratios	.....	.....
f) understand the First and Second Laws of Thermodynamics	.....	.....

EXERCISE 2 continued

2 Which of the following objectives specify a standard of performance?

"Trainees will be able to . . .	Yes	No
a) state the aims of effective instruction	.....	.....
b) develop a logical approach to problem solving	.....	.....
c) achieve an 80% increase in shorthand speed without loss of comprehension	.....	.....
d) improve their ability to deal with grievances and dispute situations	.....	.....
e) assemble orders correctly, safely and within the standard minutes allowed on the invoice	.....	.....

Note You should be aware of any important conditions which may affect performance.

e.g. a wages clerk may learn how to calculate an employee's wages when the documentation she is working from is *legible and accurate*.

Answers to Exercise 2 are given on the following page.

The process of establishing learning objectives has so far involved only yourself. Most trainees want to have some say in their learning objectives and learning methods, and this freedom increases their motivation to learn as fast and as well as they are capable of doing. This does not mean that you will be handing the whole process of learning to the trainee lock, stock and barrel but discussion with your trainees will clarify for both of you what the objectives will involve. The trainee must also be clear about when he is to achieve the objectives and you and he must agree on a learning time when he will produce work of the quality required and to the target time agreed. As each trainee will reach the necessary standards of quality and quantity at different rates you must adapt the objectives to suit the needs of individual trainees. The need for compromise should become apparent to trainees as a result of their experience in discussing and working for realistic objectives. However you should encourage them as a general rule to agree objectives slightly higher than those they would reach easily in order that they consistently raise the standards they are aiming for. The realisation that they are progressing is crucial to trainee morale and will contribute to steady improvement in their performance which is one of your aims.

Discussion of learning objectives with trainees will help *you* become more flexible in your approach and help *your trainees* begin to understand the significance of setting themselves realistic goals in all spheres of life.

EXERCISE 2 – Learning Objectives

Answers

1

a) Yes

b) Yes

c) Yes

d) No – it is difficult to see someone "appreciating the need".

e) Yes

f) No – "understanding" is not *doing*

2

a) No – this is written in "doing" terms but does not say how well they will be able to do this.

b) No – a "logical approach" does not give a standard.

c) Yes

d) No – "improved ability" – how would this be measured?

e) Yes

Stage 2

ANALYSIS OF LEARNING DIFFICULTIES

During your job/task analysis also try to identify:

a) those sequences which you think are straight forward and are unlikely to present any difficulty to the trainee

b) those tasks where some particular skill is being used or where some special knowledge is necessary for the trainee to have before he is able to work like an experienced worker.

YOU must decide whether the task is of sufficient difficulty that it should be learnt separately in order that the trainee can develop the skill or knowledge required.

YOUR TRAINEES can begin to identify for themselves the key points in any job or task that may cause particular difficulty.

Stage 3

TRAINING METHODS

You can now use your knowledge of how people learn and the variety of learning methods available to identify the most appropriate training methods to employ that will help your trainees learn effectively. You also need to employ those methods that will help you assess whether learning is actually taking place. Leaving this until the end of a session and employing some sort of test (either verbal, written or practical) is time wasting. You need feedback during the session in order to decide how your trainees are coping and whether it is necessary to employ different methods.

EXERCISE 3 – Training Methods

Write down the training methods you would use in your sessions that you think would be effective in helping your trainees learn e.g. a discussion group, a lecture or a demonstration. Divide the methods into those that would help the trainees to **M**emorise, **U**nderstand and **D**o.

TECHNIQUES

HELP MEMORY

HELP UNDERSTANDING

HELP DOING

Compare your thoughts with those listed on page 18.

TRAINING METHODS

HELP MEMORY by employing:

mnemonics, jingles, repetition, active use of the information to be remembered.

HELP UNDERSTANDING by employing:

lectures, use of text books, films, TV and discussion groups, discovery method (trainees discover for themselves how things work and why) and projects.

HELP DOING by employing:

practical demonstrations, simulations, supervised practice, job aids such as algorithms, checklists, instruction manuals, etc.

Note A lecture usually refers to a straight talk with no participation from the trainees except by taking notes or asking questions, usually at the end of the lecture. Visual and other aids (e.g. diagrams, models, handouts) are often incorporated into the lecture. Lectures are a cheap and convenient method to use helping understanding but often trainees find it difficult to transfer from verbal description to the performance of the job. Very often the spoken word makes little sense in relation to the task. The lecturer sets the pace so no allowance is made for individual differences and trainees often do not possess note taking skills. Futhermore there is little immediate feedback from trainee to lecturer.

Stage 4

PLANNING A TRAINING SESSION

First of all plan your training session carefully and prepare yourself some notes for guidance.

The main purpose of your notes is to help you remember exactly what points you wish to get across to the trainee and in what order.

Refer to your job/task analysis and your notes on identifying learning difficulties. These will give you the sequence to follow for the session. Start your notes with a clear statement of the learning objectives. This will remind you to start each session with a clear statement of the objectives of the session.

Add any relevant information from your discussion with your trainees about the learning objectives. This will remind you to cater for individual differences among your trainees and help you develop a flexible approach towards your training sessions.

Next identify what type of learning is to take place at each stage of the session and decide what method you will use to help that learning take place, e.g. a demonstration, a question and answer session, providing the trainee with various aids to learning – training manuals, checklists etc. so that you can guide him to discover for himself what needs to be learnt.

You should also make some reference to the resources you will need e.g. visual aids, OHPs , projectors, chalkboards, handouts, equipment needed by both yourself and by the trainees etc.

Your notes can be used in two ways, as a reminder prior to the session, or as a reference during a session. Remember to keep them as simple as possible, using key words or phrases as reminders rather than whole essays describing exact detail.

A simple form for preparing training sessions is given overleaf. This is just one suggested way of providing session notes. You may prefer to make your own notes.

PLANNING SHEET FOR A TRAINING SESSION

Title of Session

Date

Time of Session Location

1 Learning Objectives

2 Notes on Trainees

3 Sequence Type of Learning Required

Learning

Method

4 Resources needed

Stage 5

PRESENTING THE SESSION

Is it possible that what you do in your training session will have any influence over your trainees?

Over the past years ITRU (Industrial Training Research Unit) has been doing research into the differences in training style. It was observed that two instructors might be following the same training plan, using the same visual aids – and yet have very different success rates. The difference between them lay in the detail of HOW they put across information and dealt with errors. This difference was called their 'instructional style'.

Observation of effective and less effective instructors enabled the identification of characteristics of style that are important to helping people learn. These included: developing a rapport with trainees, having a flexible approach to accommodate the individual needs of trainees and trying to adapt to the different type of learning which jobs involve. In short effective instruction has a trainee-centred approach to training.

The research also noted that the influence an effective training style has upon trainees is wide ranging. Not only does it bring about better job understanding but develops self reliance and confidence in trainees. This confidence instilled in the trainees manifests itself in their ability to deal with a variety of new learning situations successfully. In other words not only does the effective instructor help trainees learn specific job skills but he helps them develop their learning skills.

The following techniques have been identified during various research projects as those used by effective instructors in helping trainees learn and encouraging trainee-independence.

1 HELPING MEMORY

a) YOU put across your training in a logical sequence and in a series of manageable chunks so that your trainees do not have to take in too much at any one time. It will also help prevent errors arising.

   YOUR TRAINEES can revise in manageable chunks for tests or exams. This would be a more sensible way to revise than the commonly adopted procedure of reading through a topic from start to finish. Fewer errors will creep into their recall.

b) YOU limit the information you put across to your trainees at the beginning of training to what they *need* to do the job not what you think is *nice* to know. At a later stage of training, trainees will be able to handle more information but you can help them identify what are the key parts they need to remember and what is detail.

Example:

"That is the important thing to remember; the rest is detail".

YOUR TRAINEES can begin the process of sifting through information to identify the important points which must be remembered.

c) YOU can link new information with what the trainees may already know themselves or have covered in a previous session so that you set the context of the material and help the trainees remember more easily.

Example:

"How is this sewing machine different from the one you used to use at school?"

"Remember we learnt something about this when we dealt with ....."

YOUR TRAINEES can begin to make up associations to help them remember information more easily.

d) YOU can ask specific questions at regular intervals to check that new information has been absorbed by your trainees – general questions like: "Did you get all that?" do not give you any positive feedback that the trainees have remembered anything.

Examples:

"You'll forget a lot of that detail if you don't revise it from time to time, so let's go over it now" (followed by specific check questions to which the trainee must give a detailed answer not just answer "Yes" or "No").

"We covered how to do this the other day but we'll go through it again now, just to make sure it sticks in your mind.
So tell me why you do.....
and what would happen if.....

YOUR TRAINEES can check what they have remembered by testing themselves and each other at regular intervals.

2 HELPING UNDERSTANDING

a) YOU can ask questions of your trainees. You can ask them for explanations of facts and procedures etc. By doing this you will be able to involve your trainees mentally in the learning process and get feedback on whether they have understood the information you have put across.

Example:

"Why do you think we do it this way?"

Your trainees can begin to develop the habit of thinking things through for themselves and have confidence to ask you questions if they feel they have not been given all the information they require. The art of asking the right questions is probably the single most important skill they can acquire.

b) YOU can ask questions to help your trainees understand why their mistakes occurred and how to prevent them happening in the future.

Example:

– Why do you think it happened?

–That's the sort of mistake which will crop up again and again – you need to work out carefully how to stop it. Have you any ideas?

YOUR TRAINEES can begin to work out why things went wrong for themselves and transfer their knowledge to a variety of different circumstances. They can begin to interpret errors, not as signs of failure, but as opportunities for learning how to proceed more effectively in the future.

This will help them not only become independent employees but also independent learners.

c) YOU can again ask questions to develop your trainees' judgement of their own work and progress.

Examples:

"Do you think this piece of work is up to standard?"

"Why?"

YOUR TRAINEES can begin to assess their own progress and identify their own learning needs. Self-assessment is an important life competence because it contributes to personal growth and independence.

3 HELPING DOING

a) YOU can restate the objectives of each of your sessions at the beginning so that your trainees are reminded of what is to be achieved.

Example:

"Today I'm going to show you how to make a Victoria Sponge".

"We're going to concentrate on three-point turns today"

YOUR TRAINEES can begin to realise the importance of setting realistic objectives for themselves when they set about learning something on their own.

b) YOU can identify the key points that the trainees must be aware of before you give a demonstration. You can demonstrate slowly so that the trainees have time to observe such things as body movements, how the tools and materials are held etc. You can also do your demonstration with as little excess talking as possible so that the trainees can concentrate on what is going on and ask questions when they need to.

YOUR TRAINEES can begin to understand how to get the most out of watching a demonstration. They need to become proficient at getting the information *they* need; they need to find out the purpose of the activity, the procedures involved and to make sure that they get 'hands on' experience of any equipment being used in the course of the demonstration.

c) YOU can let your trainees practise the job or parts of the job as soon as possible provided, of course, that there is no danger to the trainee or anyone else and that expensive materials will not be wasted. Involving the trainee physically in the learning process will give you feedback on how much the trainee has taken in.

YOUR TRAINEES can begin to practise various manual skills as soon as it is practical to do so, and begin to realise that in learning manual skills they must practise as often as possible.

d) YOU can identify those mistakes which may hinder the learning of manual skills and prevent them happening *immediately*. Once having gone through a sequence of movements wrongly it is very difficult for trainees to unlearn. You must prevent this happening.

Example:

"Hold on! Before you begin to saw, you're holding the saw wrongly".

YOUR TRAINEES can concentrate on getting it right first time when practising rather than trying to hurry and consequently make mistakes.

You will begin to build up a strategy for dealing with errors. Firstly not allowing those errors to happen which would have serious consequences in terms of safety, loss of time or expensive materials. Secondly identifying those errors that must be corrected immediately because they will delay learning. Thirdly identifying those errors which the trainee makes that can be turned into learning opportunities by getting the trainee to work out for himself the cause of the error, the consequence of the error and how to prevent it happening in the future.

It will take time and effort to develop your skills in using the techniques previously described. The ITRU/VAG (UK) Ltd training tapes offer further help in developing those skills. Each tape describes a number of techniques. Further information about the tapes can be obtained from ITRU. It is likely that you will find some of the techniques easier to use than others. It is up to you to identify those techniques that you are most comfortable with and fit happily with your own personality. However do give all techniques a fair chance.

Further Points for Consideration

The earlier parts of the training pack have looked at how you can plan and run your training session in order to introduce to your trainees the idea that 'learning about learning' is a normal part of their training. You were offered a framework to help you guide your trainees to more specific learning methods and the learning situations in which they are appropriate.

Ultimately as independent learners your trainees will have to make choices relating to the amount of time to be spent, the resources to be used, the depth to which a subject should be pursued before seeking help etc. However, once a trainee has joined your course or scheme, you take over responsibility for choices of this sort. It is usual for you to decide what is to be learnt, when it will be learnt, what resources will be used and how assessments will be made. We have already discussed involving the trainees in a discussion on the learning objectives so that they are clear about what is to be achieved. Are there any other times when you can hand over the responsibility for learning to your trainees and let them plan and implement their own learning? The following examples illustrate how two instructors tried to do this.

1
The instructor on a catering course wanted his trainees to begin to learn about costing and portion control. He therefore set them the task of organising the afternoon tea for old people visiting a day centre.

This involved them in budgeting, liaising with the centre organiser, deciding on a suitable menu, organising its preparation, serving it and cleaning up afterwards. The following day they reviewed their experiences and made plans for improving their performance on the next occasion.

2
A sewing instructor wanted to give her trainees more scope for learning independently. She therefore decided to change her approach. Instead of teaching them a new machining technique and then providing them with a task on which to use it, she offered them a choice of items to make each of which involved something new. She gave them the pattern, a machine handbook to help them work out how to do new stitches and a variety of fabrics from which to select. When trainees encountered problems she helped them to solve them for themselves.

The trainees learnt a great deal about choosing suitable materials, about finding their way through the machine handbook, about using unfamiliar patterns and about puzzling things out for themselves. The instructor was helping them to become independent learners.

EXERCISE 4

How can you plan ways of organising your training so that you give your trainees more scope? A useful starting point is to think about the ways in which you will expect your trainees to learn. Make a list of what they will do as learners. They might watch, listen, try things out under supervision, ask questions, use work sheets etc. Now make a note of the decisions or choices they will be expected to make about the way their learning opportunities are organised, and then a further list of the decisions you will make.

Look at your lists and ask yourself whether there is any way in which you can let them take a greater share in organising their own learning – can you give them experience of working in groups to achieve their goals, using a variety of resources (manuals, journals, magazines, other staff, family, friends, each other etc.) to help.

The wider the range of experience you can give them and the more you can reduce their dependence on you as a source of information or problem solver, the greater will be their skill as independent learners.

DECISIONS YOUR TRAINEES MAKE	DECISIONS YOU MAKE

You may wish to work through this exercise with a training specialist, ask for advice from your company's Training Officer, or from a Training Advisor attached to a Training Board.

Effective Use of Time

Managing their time effectively was identified as one of the characteristics of effective instructors. Helping people learn will involve you in a multiplicity of responsibilities. How do you reconcile your duty to supervise trainees with other claims on your attention? The common time management situations that arise for instructors are:-

a) how do you deal with the needs of several new trainees who report all at once.
b) how do you ensure sufficient attention is paid to a new starter when you already have a dozen trainees to look after, all at different stages of training?

EXERCISE 5
Here are two very different approaches to situation a)

THE 'THREE'S A CROWD' STRATEGY
Six new recruits were introduced to Instructor T to start their training at 9.30 one Monday morning. None of them had any knowledge about the job. Instructor T assigned four of them to workplaces and asked them to wait there for a few minutes. At another workplace, he sat between the remaining two recruits and proceeded to explain and demonstrate the first elements of the task. He watched first Pat One and then Pat Two perform. Whilst the first two Pats practised, he introduced a second pair of trainees to the job and finally the third pair.

Successive elements of the job were put across in a similar way during the first morning. Then the pairing of trainees changed: in the morning it was random, later in the day it was related to the rate of progress made by each trainee. By the third day of training, Instructor T did not 'double up' any longer; he took trainees one at a time through subsequent stages of the job.

'LET'S TACKLE THIS ALL TOGETHER' TECHNIQUE
Instructor U, receiving six trainees all at the same moment, kept them together as a group until he had told them about the first task to be accomplished, demonstrated how the first element should be done, and invited questions.

Instructor U then assigned each of the six to a prepared workplace where they set about doing the element whilst the instructor went from one to another supervising their performances. After a period of practice the trainees were called together round one workplace where the instructor repeated the procedure for the next element.

Whenever additional know-how was required Instructor U grouped trainees together. During the second week of training, because of the varied rate of progress of individual learners, the instructor tended to put across new information to various pairs of trainees or to sub-groups of three or four rather than to the whole group of six.

In your opinion did either of these instructors overcome, effectively, the problem of how to cope 'in a rush hour'? By what means? List them below.

Compare your comments with those described on page 30. These observations were made during ITRU's research programme on instructional techniques.

The most effective instructors were never observed to treat all the starters as one 'large' group. Always, at the start, they split the group into sub-groups of no more than three trainees. They dropped group teaching completely much earlier in training than did the latest effective instructors.

Instructor U avoided leaving any of the trainees 'with nothing to do' by aiming to talk and demonstrate to all six at once. The instructor could even argue that as a group each member could learn something from other trainees' questions or comments. In fact, few questions and very little discussion were ever stimulated by group talks or demonstrations: at the beginning the trainees did not know each other well enough to feel free in discussion, and there are few demonstration situations in which six people can see sufficiently well for the attention of them all to be sustained. One or two will fail to see the finer points whenever an arm is moved across the field of vision. Others see what is going on from a different angle to the view they will have when they do the job themselves. They may, therefore, do nothing useful during the talk or demonstration but their 'idleness' is camouflaged by their presence in the group.

When instructor U's trainees started to perform themselves, some of them were apt to flounder until the instructor got round to them. Inevitably, the interval between one demonstration and the next was seldom right for more than one trainee: others who were called to attend had either been left longer than necessary practising the previous steps and were getting bored or they were scarcely ready to proceed to the next one.

The overt 'idleness' of some of Instructor T's trainees, as they awaited their 'turn' to start learning, was potentially rewarding. The sight and sounds of strange surroundings, unknown people and unfamiliar materials and equipment all vie with new knowledge for the attention of a trainee during the first day. Some people, particularly older adults, find it difficult to come to terms with so many stimuli all at the same time. A breathing space, therefore, to absorb something of training surroundings and equipment, to take stock of one's colleagues for the immediate future, and to assess the sort of general behaviour which will be expected – will release a little more of the energy and attention required to absorb new knowledge.

Here are two very different approaches to situation b)

'ALWAYS AVAILABLE WHEN YOU WANT SOMETHING' TYPE

Instructor V was supervising eight trainees, all at different stages of training, when another new recruit arrived. Straight away the instructor welcomed and began to instruct the new Pat. Meanwhile several of the other trainees approached the instructor with problems. With apologies to Pat the instructor dealt briefly with each of them as they occurred. As soon as Pat was able to do a part of the task on his own, Instructor V left Pat practising and went on a round of all the other trainees to check how they were getting on. Then it was Pat's turn again to be corrected or further instructed. Thus, time and attention were shared fairly equally between the new Pat and each of the others.

'LAST COME FIRST SERVED' PRINCIPLE

Instructor W was in a similar situation to Instructor V when she received a ninth trainee to teach. Like her colleague, Instructor W attended to the new recruit but did so for practically the whole morning. The approach of another trainee for help or information was not allowed to interrupt conversation with or attention to Pat: the inquirer was invariably told to try to sort out the difficulty until Instructor W was free, or to ask so-and-so (another trainee) to help. Only during intervals when Pat needed to practise something alone, did Instructor W turn to the other trainees, particularly to those who had indicated that they were in some sort of difficulty. It was quite usual for a whole morning or afternoon to pass in which Instructor W spent something less than three minutes, or even no time at all, in direct contact with one or two of the more advanced trainees.

Did either of the instructors, in your opinion, manage their time to the best advantage for all trainees and for themselves? Write your comments below.

Compare your comments to those on page 33.

Instructor V never seemed to relax for a minute but the trainees scarcely seem to benefit proportionately from that perpetual and universal availability. It seems to be because the instructor was caught up in a vicious circle:-

Instructor V had –

Insufficient time to deal adequately with Pat's needs at the start of training

Pat needed the instructor to check and help at later stages of training

Pat got the habit of expecting a relatively large share of time at all stages of training

'Advanced' trainees became dependent upon instructor

It is difficult enough, in such circumstances, to greet a new Pat with welcome-sounding words. It is even more difficult to conceal that fleeting facial expression which says "Oh heavens! Another one", yet the expression is likely to make a greater impact on Pat than the words. Instructor V's interruptions while 'getting going' plus excessively long intervals of practice made boring introductions to the way ahead. If Pat went home at the end of the first day with waning enthusiasm for the new job, it was hardly to be wondered at.

Instructor W can also be visualised on a circular track, but a time-generated track rather than a time-consuming one. It is the track which the most effective instructors seemed to follow:

Instructor W had adequate time to meet Pat's needs at the start of training

Pat's learning foundations were firmly laid

Pat was encouraged and was able to resolve her own problems and to recognise when help must be sought

'Advanced' trainees need the instructor only occasionally

Instructor W's new Pat was more likely to have felt welcome and to have been encouraged, incidentally, by the examples of the other trainees, to believe that she too would soon be able to perform un-aided.

Self Assessment

When discussing the methods and techniques to be employed during a training session reference has been made to the importance of obtaining continuous feedback during the session in order to assess whether learning is taking place. Leaving this until the end of a session is time wasting and ineffectual since you cannot make immediate use of the information to help the trainees learn more effectively.

What is a useful course of action to take at the end the session is to review with individual trainees the progress they think they have made and what difficulties they have encountered. You may very well be called upon to keep progress/assessment reports on your trainees. Often such reports are concerned only with producing information *about* the trainee for use by other individuals to evaluate what the trainee has done in the past. Trainees are rarely encouraged to say things about themselves. Encouraging trainees to reflect upon their experiences and to think about which things worked well for them and which not so well, means they can decide for themselves what they are likely to succeed at in the future. One of the skills they will need as independent learners is the ability to assess their own learning.

By encouraging participation in their assessment you will be encouraging self motivation within your trainees and in particular their ability to review their own experiences which is in itself an important life skill. Also salient points that emerge from your discussions can form the basis of your progress/assessment reports which will provide, not just a mere progress marker but may be used to help trainees' future development.

A Final Comment

A characteristic found in effective instructors is that of establishing a rapport with their trainees. This is essential in order for your trainees to obtain maximum benefit from the discussions. In order to develop good relationships your best assets are – personal warmth, trustworthiness and common sense. It is those qualities which communicate themselves to your trainees. Most important of all is to be a "good listener". Below are the 10 commandments of good listening which you may find helpful to bear in mind.

THE TEN COMMANDMENTS OF "GOOD LISTENING".*

1	Do not talk!	You cannot listen when you are talking.
2	Help your partner to relax!	Let him know and feel that he can talk freely.
3	Express your will to listen!	Show interest. Look at your partner. Listen to understand, not to oppose.
4	Keep away distractions!	Do not doodle. No interruptions. Keep door closed.
5	Relate to your partner!	Try to stand in his shoes, to understand his point of view.
6	Have patience!	Do not hurry on or interrupt. Give him TIME.
7	Control yourself!	If your are angry or bored you could misinterpret or lose important points.
8	Ask questions!	They encourage, show interest and enrich the conversation.
9	Tolerate silences!	Let him tell you when he wants to break them.
10	Do not talk!	The first and last commandment. All the others depend on it. Nature gave us two ears but only one tongue – a gentle reminder that we should do more listening than talking.

* *Translated from "To work together – to talk together" Bavarian Ministry of labour, 1981.*

Summary

You help your trainees to become effective and independent learners when you:

a) Use an effective style in putting across information and when dealing with errors so as to accustom your trainees to take an active part in learning.

b) Make explicit to the trainee how the different aspect of training will help him learn.

c) Make the trainee aware of the different learning methods that are available and encourage him to use them.

d) Offer trainees opportunities to take responsibility for their own learning.

e) Involve trainees in setting their own learning objectives and assessing their own learning.

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